Utah Energy Forum

"Advanced Vehicles and Alternative Fuels"

An Update from the State Fleet

The Current Environment…

The Current Environment…

- **What is most important?**
  - **Here are the 7 factors the state fleet considers:**
    1. Cost Efficiency
    2. Energy Efficiency
    3. Air Pollution and Green House Gas Standards
    4. Decreasing Dependency on Foreign Oil
    5. Purchasing Requirements

6. Buying “American Made” Vehicles
7. Refueling Options for Alternative Fuels

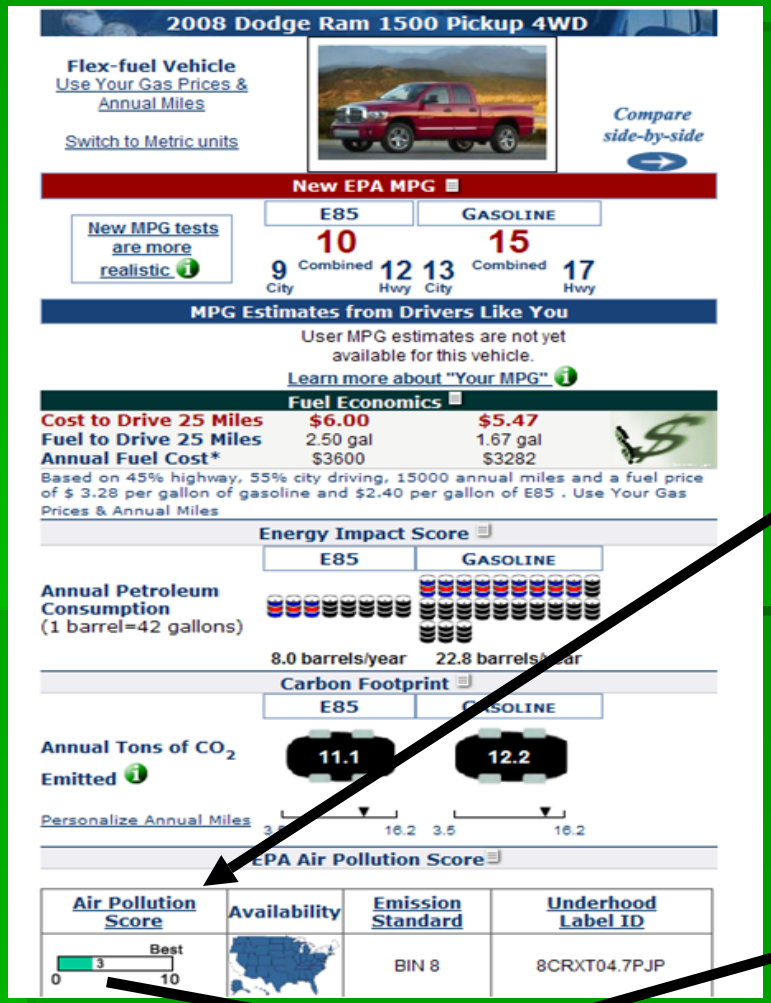
“Advanced Vehicles”

- **Purchase Policy Statement:**

  Fleet Operations purchase of all light duty vehicles (with the exception of law enforcement) will be:

  hybrid or natural gas vehicles, unless the unleaded fuel option has a higher air quality score (as published by the Federal Environment Protection Agency).

“Advanced Vehicles”



Purchase Policy Statement:

Where no hybrid or natural gas vehicle is available from the manufacturer DFO will purchase vehicles with a minimum air quality score of “6” or greater as published by the Federal Environmental Protection Agency (EPA) (fueleconomy.gov).

This particular truck would not meet our minimum standard

Alternative Fuel and Hybrid Vehicle Counts (Past and Present)

Retired State Vehicles

VEHICLE TYPE	COUNT OF RETIRED VEHICLES
BI-FUEL NATURAL GAS	436
DEDICATED NATURAL GAS	39
ELECTRIC	1
FLEX FUEL VEHICLES (E85)	458

Current State Vehicles

VEHICLE TYPE	CURRENT COUNT OF VEHICLES
BI-FUEL NATURAL GAS	79
DEDICATED NATURAL GAS	23
HYBRID	22
ELECTRIC	3
FLEX FUEL VEHICLES (E85)	842

“Advanced Vehicles”

- **Compressed Natural Gas**
  - The state fleet continues to consider CNG vehicles as a good purchase choice in campus environments or in areas where refueling stations are close enough to be cost effective

The Honda Civic is currently the only CNG vehicle available from major manufacturers

“Advanced Vehicles”

Hybrid Technology

- This year the state fleet was authorized by the legislature to spend up to 1.3 million in incremental costs to purchase hybrid vehicles in the compact, mid-size and compact SUV classes
- The new hybrid state vehicles will be placed in the fleet this spring and summer

Advanced Vehicles
New Purchase Decision Model

- The State Fleet started using a new purchasing model this year to account for all seven factors determined by state fleet managers to influence the purchase decision

- Through a process with the Governor's Office and staff with the Department of Administrative Services the following weighted percentages were assigned to the factors as listed below:
  - Cost Effectiveness 34%
  - Air Quality 25%
  - Fueling Infrastructure 12%
  - Greenhouse Gas 11%
  - Foreign Oil Dependence 7%
  - EPACT Compliance 7%
  - American Made 5%

Advanced Vehicles
New Purchase Decision Model

Step 6 – The fleet purchasing agent creates a final spreadsheet that combines the calculated vehicle performance and cost data against the 1-9 score tables from Step 5. The far right hand side of the table calculates an average score for each vehicle using the weighted percentages figured in Steps 1-3. The rank column shows the top to bottom vehicle selection based on both the competing category percentages and the actual vehicle data on a standardized scale.

Vehicle Type	Fuel Type	Make/Model	Cost Effect.	Air Quality	Green. Gas	Infrastr. Avail.	Foreign Oil	EPACT	Amer.	Total	Rank
Compact Sedan	Gasoline	2007 Ford Focus	8	7	7	9	5	1	9	7.10	4
	Gasoline	2007 Honda Civic	8	6	7	9	6	1	1	6.56	5
	Hybrid	2007 Toyota Prius	7	8	9	9	7	6	1	7.37	1
	Hybrid	2007 Honda Civic	6	9	9	9	7	6	1	7.27	2
	E85	2008 Dodge Avenger	3	7	7	2	8	9	9	5.37	6
	CNG	2008 Honda Civic	7	9	8	4	9	9	1	7.27	3
		Criteria Weights	33.8%	24.6%	11.4%	11.6%	7.2%	7.0%	4.5%		

Using the model presented above the State of Utah shows the Toyota Prius is the top selection and is highlighted in blue. It scored 7.37 out of a possible 9 points.

Alternative Fuels Use in the State Fleet

- Biodiesel

- CNG
- Ethanol (E85)

Biodiesel

- Bio-diesel (at a 20% blend or “B20”) is the standard fuel for all state owned fuel sites that dispense diesel where it is available from local fuel providers
  - Some state sites have consistent temperatures below 30 degrees and cause “fuel gel” concerns. We are not currently dispensing biodiesel at these sites
- Over the last year the state fuel network dispensed 141,100 gallons of biodiesel in state vehicles

CNG

- During the last year the state dispensed 21,493 gallons of CNG fuel
- There are currently 18 CNG refueling stations on the state gascard refueling network
- The state fleet provides a financial incentive to leasing agencies with bi-fuel vehicles that select CNG over regular unleaded fuel
- The state currently owns and maintains six CNG fuel sites
  - A recent bill passed in the 2008 legislative session will allow CNG to be dispensed to the public at the University of Utah fuel site

Ethanol (E85)

- The state currently owns and maintains one E85 fuel site at Salt Lake Community College – Redwood Road Campus
- Last year the state dispensed 1,179 gallons of Ethanol at the SLCC site

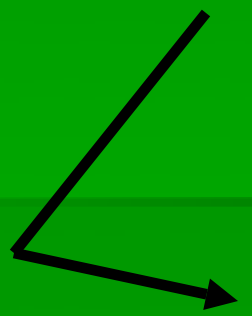
“Energy Efficiency” Focus

- On April 26, 2006 Governor Huntsman released his comprehensive energy efficiency plan. The state fleet is part of the overall goal which is to:

Increase Energy Efficiency in the State 20% by 2015

Fleet "Cost Efficiency" Focus

- House Bill 110 (2007 Legislative Session)
  - Focus on Cost Efficiency in the state fleet
    - Baseline data gathered from Fiscal Year 2007:
      - Miles Driven
      - Fuel Gallons Used
      - Average Miles Per Gallon (MPG)
      - Average Cost Per Mile (CPM)
      - Vehicle Counts by Agency



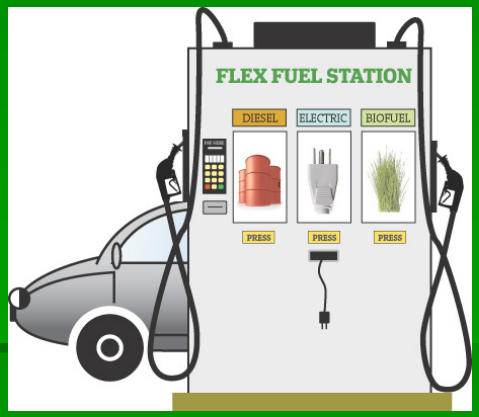
      - These data points will be used to determine if we will meet Governor's Huntsman Energy Efficiency goal by 2015

Fleet "Cost Efficiency" Focus

- House Bill 110 (2007 Legislative Session) – continued
  - "Rightsizing" or Downsizing the State fleet
    - All replacement vehicles must be justified against a compact sedan
      - This year 85 replacement vehicles were "right sized" as a result of the justification process
      - Net effect of **reducing 76 vehicles** from the road

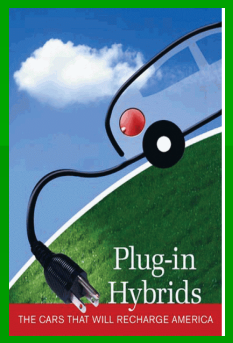
  - Annual "Agency Goals" submitted to the Legislature
  - Education to change driver behavior
    - Training brochure developed by Fleet Operations

Future considerations



- Dedicated Electric Vehicles
  - Full-size trucks that can go freeway speeds

- Plug-in Electric Hybrids



- Hydrogen Fuel Cell Vehicles

Questions?

Sam Lee
Deputy Director
Division of Fleet Operations
4120 State Office Building
Salt Lake City, Utah 84114

(801) 538-3452 – Office Phone
(801) 824-5553 – Cell Phone
samlee@utah.gov